

1. This equation, when solved, will give the number of gallons of water a hippo can drink in 24 hours. Use numbers and symbols to write the equation.

The difference between three times a number and the sum of twelve squared plus ninety-two equals five hundred fourteen.

2. Give the reciprocal of $\frac{5}{6}$.
3. Which has the greatest value?

4^3 3^5 2^6 5^3

4. Read the signs in example # 5.

Three of these animals flapped their wings continuously for a minute, resulting in 49,200 flaps. Which insect was not included?

5. Read the signs. Answer the questions.

- a. What is the mean number of flaps per second for the four insects?
- b. If all four insects flap continuously for two minutes, how many wing flaps will result?

GNAT
FLAPS WINGS
1000 TIMES PER
SECOND

HORSEFLY
FLAPS WINGS
200 TIMES PER
SECOND

DRAGONFLY
FLAPS WINGS
20 TIMES PER
SECOND

MOSQUITO
FLAPS WINGS
600 TIMES PER
SECOND

1. Finish the sentence:

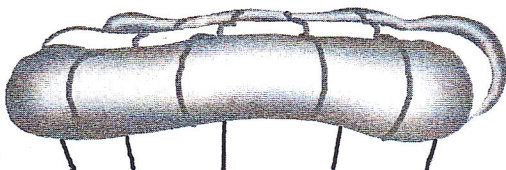
The product of two negative numbers is a _____ number.

2. Evaluate: $7(\sqrt{81})$

3. Write an expression to match the words:
the sum of four times a number (x) and twice the square of another number (y)

4. A trout swims one and two-third miles in 25 minutes. Solve the proportion to find out how far the trout can swim in one hour.

$$\frac{\frac{5}{3}}{25} = \frac{x}{60}$$



5. In 1997, a dog named Brutus set an interesting record. He became the world's highest sky diving dog when he descended a distance of 4,572 feet (wearing a parachute, of course). A second skydiving dog jumped a shorter distance (d). A third dog jumped one-third the distance of the second dog. Together their dives equaled Brutus's distance. How far did the second dog jump?

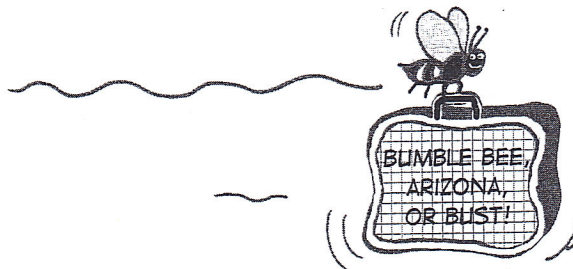


1.

THE SOLUTION IS $x = 2$.
WHAT IS THE EQUATION? (CIRCLE IT.)

$$\frac{1}{3x} = 6 \quad \frac{4x}{2x} = 8$$

$$\frac{1}{4x} = \frac{1}{2} \quad \frac{3}{2x} - 6 = 0$$



2. Add: $(4 + 7x) + (9x - x^2 - 20)$

3. Explain the rule for dividing exponential expressions if the bases are the same.

4. Simplify:

$$6 + 10d^2 + d^2 - 12 < 40 + d$$

5. There is enough energy in one gallon of nectar for a bee to travel four million miles at seven miles per hour.

Assuming that a bee does this, how much travel time would it take?

 (Use the formula $rt = d$. Round your answer to the nearest whole number.)

1. $2xy^2 + 6x - 8x$

Is this a correct factoring for the above expression?

$$(2x)(y^2 + 3 - 4)$$

 2. Evaluate for $x = -6$ and $y = 3$.

$$\frac{5x^2}{y}$$

3. When you graph a linear inequality, how do you decide if the circle on the number line is shaded or not shaded?

4. Charlie was asked to evaluate an expression. Did he do it correctly?

$$\sqrt{4^2 + 3^2} = 5$$

5. In response to a survey, seven percent of cat owners in the U.S. reported that their cats snore. If the number of snoring cats is 4,606,000, what is the total number of cats in the U.S.?

 Which equation will find the answer to the question? (c = total number of cats)

$$\begin{aligned} (4,606,000)(0.07) &= c \\ 4,606,000c &= 0.07 \\ 0.07c &= 4,606,000 \end{aligned}$$



Name _____

1. A baby bird can eat 14 feet of earthworm every day. At this rate, how many days would it take six baby birds to eat 840 feet of worms?

2. Let t represent the lifespan of a tarantula. Let r = the lifespan of a rhinoceros. Use the two equations to find both life spans.

$$t = \left(\frac{1}{2}r\right) - 10$$

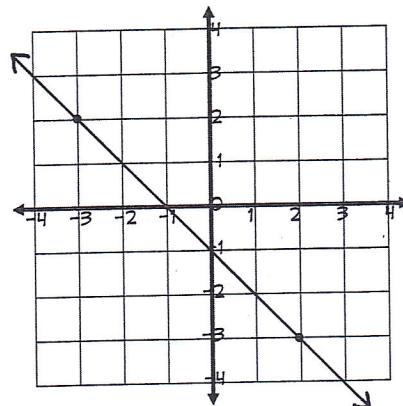
$$t + r = 80$$



3. Evaluate: $(-2)(15)(-10)(-3) =$

4. Is this a graph of the following equation?

$$x = y + 1$$



5. Challenge Problem

Use information from the table to answer the questions.



- a. 5.2×10^3 noses—How many slugs?
- b. 1.6×10^4 brains—How many leeches?

Curious Animal Facts

| | |
|-----------|--------------------|
| PORCUPINE | 30,000 QUILLS |
| MOSQUITO | 47 TEETH |
| SCALLOP | 100 EYES |
| ALLIGATOR | 80 TEETH |
| CATFISH | 100,000 TASTE BUDS |
| LEECH | 32 BRAINS |
| SLUG | 4 NOSES |
| BEE | 4 WINGS |



Write answers in scientific notation.

- c. A hive of 53,000 bees—
How many wings?
- d. A school of 8,750 catfish—
How many taste buds?
- e. A bay of 5,290 scallops—
How many eyes?
- f. A river with 11,200 alligators—
How many teeth?
- g. A meadow with 492 porcupines—
How many quills?
- h. A tent with 350 mosquitoes—
How many teeth?

